



SEQUENCE LISTING

<110> GREENSTEIN, DAVID
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<120> COMPOSITIONS AND METHODS OF NEMATODE CONTROL

<130> N-7088

<140> 09/863,063

<141> 2001-05-21

<150> 60/205,829

<151> 2000-05-19

<150> 60/274,358

<151> 2001-03-08

<160> 33

<170> PatentIn Ver. 2.1

<210> 1

<211> 126

<212> PRT

<213> *Caenorhabditis elegans*

<400> 1

Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr Lys
1 5 10 15

Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile Lys
20 25 30

Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr Thr
35 40 45

Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp Pro
50 55 60

Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe Gly
65 70 75 80

Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn Thr
85 90 95

Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
100 105 110

Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
115 120 125

<210> 2

<211> 126

<212> PRT

<213> *Caenorhabditis elegans*

<400> 2

Ala	Gln	Ser	Val	Pro	Pro	Gly	Asp	Ile	Gln	Thr	Gln	Pro	Gly	Thr	Lys
1				5					10					15	
Ile	Val	Phe	Asn	Ala	Pro	Tyr	Asp	Asp	Lys	His	Thr	Tyr	His	Ile	Lys
		20					25						30		
Val	Ile	Asn	Ser	Ser	Ala	Arg	Arg	Ile	Gly	Tyr	Gly	Ile	Lys	Thr	Thr
		35					40					45			
Asn	Met	Lys	Arg	Leu	Gly	Val	Asp	Pro	Pro	Cys	Gly	Val	Leu	Asp	Pro
	50					55					60				
Lys	Glu	Ala	Val	Leu	Leu	Ala	Val	Ser	Cys	Asp	Ala	Phe	Ala	Phe	Gly
65					70					75					80
Gln	Glu	Asp	Thr	Asn	Asn	Asp	Arg	Ile	Thr	Val	Glu	Trp	Thr	Asn	Thr
				85					90					95	
Pro	Asp	Gly	Ala	Ala	Arg	Gln	Phe	Arg	Arg	Glu	Trp	Phe	Gln	Gly	Asp
			100					105					110		
Gly	Met	Val	Arg	Arg	Lys	Asn	Leu	Pro	Ile	Glu	Tyr	Asn	Pro		
		115					120					125			

<210> 3

<211> 126

<212> PRT

<213> Caenorhabditis elegans

<400> 3

Ala	Gln	Ser	Val	Pro	Pro	Gly	Asp	Ile	Gln	Thr	Gln	Pro	Asn	Ala	Lys
1				5					10					15	
Ile	Val	Phe	Asn	Ala	Pro	Tyr	Asp	Asp	Lys	His	Thr	Tyr	His	Ile	Lys
		20					25						30		
Val	Ile	Asn	Ser	Ser	Ala	Arg	Arg	Ile	Gly	Tyr	Gly	Ile	Lys	Thr	Thr
		35					40					45			
Asn	Met	Lys	Arg	Leu	Gly	Val	Asp	Pro	Pro	Cys	Gly	Val	Leu	Asp	Pro
	50					55					60				
Lys	Glu	Ala	Val	Leu	Leu	Ala	Val	Ser	Cys	Asp	Ala	Phe	Ala	Phe	Gly
65					70					75					80
Gln	Glu	Asp	Thr	Asn	Asn	Asp	Arg	Ile	Thr	Val	Glu	Trp	Thr	Asn	Thr
				85					90					95	
Pro	Asp	Gly	Ala	Ala	Lys	Gln	Phe	Arg	Arg	Glu	Trp	Phe	Gln	Gly	Asp
			100					105					110		
Gly	Met	Val	Arg	Arg	Lys	Asn	Leu	Pro	Ile	Glu	Tyr	Asn	Pro		
		115					120					125			

<210> 4
 <211> 126
 <212> PRT
 <213> Caenorhabditis elegans

<400> 4
 Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Asn Ala Lys
 1 5 10 15
 Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile Lys
 20 25 30
 Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr Thr
 35 40 45
 Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp Pro
 50 55 60
 Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe Gly
 65 70 75 80
 Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn Thr
 85 90 95
 Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
 100 105 110
 Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 5
 <211> 126
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 <213> Caenorhabditis elegans

<400> 5
 Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr Lys
 1 5 10 15
 Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Asp His Ile Lys
 20 25 30
 Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr Thr
 35 40 45
 Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Phe Asp Pro
 50 55 60
 Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe Gly
 65 70 75 80
 Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn Thr
 85 90 95
 Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
 100 105 110

Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 6
 <211> 126
 <212> PRT
 <213> Caenorhabditis elegans

<400> 6
 Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr Lys
 1 5 10 15
 Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile Lys
 20 25 30
 Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr Ile
 35 40 45
 Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp Pro
 50 55 60
 Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe Gly
 65 70 75 80
 Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn Thr
 85 90 95
 Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
 100 105 110
 Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 7
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 7
 Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr Lys
 1 5 10 15
 Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile Lys
 20 25 30
 Val Ile Asn Ser Ser Ala Arg Arg Ile Val Tyr Gly Ile Lys Thr Thr
 35 40 45
 Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp Pro
 50 55 60
 Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe Gly
 65 70 75 80
 Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn Thr
 85 90 95

Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
 100 105 110

Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 8

<211> 126

<212> PRT

<213> Caenorhabditis elegans

<400> 8

Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr Lys
 1 5 10 15

Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr Arg Ile Lys
 20 25 30

Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr Thr
 35 40 45

Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp Pro
 50 55 60

Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe Gly
 65 70 75 80

Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn Thr
 85 90 95

Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
 100 105 110

Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 9

<211> 126

<212> PRT

<213> Caenorhabditis elegans

<400> 9

Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr Lys
 1 5 10 15

Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile Lys
 20 25 30

Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr Thr
 35 40 45

Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp Pro
 50 55 60

Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe Gly
65 70 75 80

Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn Thr
85 90 95

Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
100 105 110

Gly Met Ala Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
115 120 125

<210> 10

<211> 126

<212> PRT

<213> *Caenorhabditis elegans*

<400> 10

Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr Lys
1 5 10 15

Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile Lys
20 25 30

Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr Thr
35 40 45

Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp Pro
50 55 60

Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe Gly
65 70 75 80

Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Ile Glu Trp Thr Asn Thr
85 90 95

Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
100 105 110

Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
115 120 125

<210> 11

<211> 126

<212> PRT

<213> *Ascaris suum*

<400> 11

Ala Gln Ser Val Pro Pro Gly Asp Ile Asn Thr Gln Pro Ser Gln Lys
1 5 10 15

Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile Lys
20 25 30

Ile Thr Asn Ala Gly Gly Arg Arg Ile Gly Trp Ala Ile Lys Thr Thr
35 40 45

Asn Met Arg Arg Leu Ser Val Asp Pro Pro Cys Gly Val Leu Asp Pro
50 55 60

Lys Glu Lys Val Leu Met Ala Val Ser Cys Asp Thr Phe Asn Ala Ala
65 70 75 80

Thr Glu Asp Leu Asn Asn Asp Arg Ile Thr Ile Glu Trp Thr Asn Thr
85 90 95

Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
100 105 110

Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Leu
115 120 125

<210> 12

<211> 126

<212> PRT

<213> Ascaris suum

<400> 12

Ala Gln Ser Val Pro Pro Gly Asp Ile Asn Thr Gln Pro Gly Ser Lys
1 5 10 15

Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile Lys
20 25 30

Ile Thr Asn Ala Gly Gly Arg Arg Ile Gly Trp Ala Ile Lys Thr Thr
35 40 45

Asn Met Arg Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp Pro
50 55 60

Lys Glu Ser Val Leu Met Ala Val Ser Cys Asp Thr Phe Asn Ala Ala
65 70 75 80

Thr Glu Asp Leu Asn Asn Asp Arg Ile Thr Ile Glu Trp Thr Asn Thr
85 90 95

Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly Asp
100 105 110

Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Leu
115 120 125

<210> 13

<211> 21

<212> PRT

<213> Ascaris suum

<220>

<223> MSP-alpha

<400> 13

Arg Glu Trp Phe Gln Gly Asp Gly Met Val Arg Arg Lys Asn Leu Pro
 1 5 10 15

Ile Glu Tyr Asn Leu
 20

<210> 14
 <211> 21
 <212> PRT
 <213> Ascaris suum

<220>
 <223> MSP-beta

<400> 14
 Arg Glu Trp Phe Gln Gly Asp Gly Met Val Arg Arg Lys Asn Leu Pro
 1 5 10 15

Ile Glu Tyr Asn Leu
 20

<210> 15
 <211> 21
 <212> PRT
 <213> Globodera rostochiensis

<220>
 <223> MSP1

<400> 15
 Leu Glu Trp Phe Gln Gly Asp Gly Met Val Arg Arg Lys Asn Leu Pro
 1 5 10 15

Ile Glu Tyr Asn Val
 20

<210> 16
 <211> 21
 <212> PRT
 <213> Globodera rostochiensis

<220>
 <223> MSP2

<400> 16
 Leu Glu Trp Phe Gln Gly Asp Gly Met Val Arg Arg Lys Asn Leu Pro
 1 5 10 15

Ile Glu Tyr Asn Val
 20

<210> 17
 <211> 21

<212> PRT
 <213> Globodera rostochiensis

<220>
 <223> MSP3

<400> 17
 Arg Glu Trp Phe Gln Gly Asp Gly Met Ala Arg Arg Lys Asn Leu Pro
 1 5 10 15

Ile Glu Tyr Asn Pro
 20

<210> 18
 <211> 21
 <212> PRT
 <213> Caenorhabditis elegans

<220>
 <223> MSP142

<400> 18
 Arg Glu Trp Phe Gln Gly Asp Gly Met Ala Arg Arg Lys Asn Leu Pro
 1 5 10 15

Ile Glu Tyr Asn Pro
 20

<210> 19
 <211> 21
 <212> PRT
 <213> Caenorhabditis elegans

<220>
 <223> MSP33

<400> 19
 Arg Glu Trp Phe Gln Gly Asp Gly Met Ala Arg Arg Lys Asn Leu Pro
 1 5 10 15

Ile Glu Tyr Asn Leu
 20

<210> 20
 <211> 21
 <212> PRT
 <213> Onchocerca volvulus

<220>
 <223> MSP1

<400> 20
 Arg Glu Trp Phe Gln Gly Asp Gly Met Ala Arg Arg Lys Asn Leu Pro
 1 5 10 15

Ile Glu Tyr Asn Leu
20

<210> 21
<211> 127
<212> PRT
<213> Onchocerca volvulus

<220>
<223> MSP2

<400> 21
Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr
1 5 10 15
Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
20 25 30
Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr
35 40 45
Thr Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
50 55 60
Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
65 70 75 80
Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn
85 90 95
Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
100 105 110
Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
115 120 125

<210> 22
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<212> PRT
<213> Caenorhabditis elegans

<400> 22
Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr
1 5 10 15
Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
20 25 30
Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr
35 40 45
Thr Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
50 55 60
Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
65 70 75 80

Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn
85 90 95

Thr Pro Asp Gly Ala Ala Arg Gln Phe Arg Arg Glu Trp Phe Gln Gly
100 105 110

Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
115 120 125

<210> 23

<211> 127

<212> PRT

<213> Caenorhabditis elegans

<400> 23

Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Asn Ala
1 5 10 15

Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
20 25 30

Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr
35 40 45

Thr Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
50 55 60

Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
65 70 75 80

Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn
85 90 95

Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
100 105 110

Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
115 120 125

<210> 24

<211> 127

<212> PRT

<213> Caenorhabditis elegans

<400> 24

Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Asn Ala
1 5 10 15

Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
20 25 30

Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr
35 40 45

Thr Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
 50 55 60
 Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
 65 70 75 80
 Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn
 85 90 95
 Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
 100 105 110
 Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 25
 <211> 127
 <212> PRT
 <213> Caenorhabditis elegans

<400> 25
 Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr
 1 5 10 15
 Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Asp His Ile
 20 25 30
 Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr
 35 40 45
 Thr Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Phe Asp
 50 55 60
 Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
 65 70 75 80
 Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn
 85 90 95
 Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
 100 105 110
 Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 26
 <211> 127
 <212> PRT
 <213> Caenorhabditis elegans

<400> 26
 Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr
 1 5 10 15
 Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
 20 25 30

Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr
 35 40 45
 Ile Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
 50 55 60
 Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
 65 70 75 80
 Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn
 85 90 95
 Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
 100 105 110
 Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 27
 <211> 127
 <212> PRT
 <213> Caenorhabditis elegans

<400> 27
 Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr
 1 5 10 15
 Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
 20 25 30
 Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Val Tyr Gly Ile Lys Thr
 35 40 45
 Thr Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
 50 55 60
 Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
 65 70 75 80
 Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn
 85 90 95
 Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
 100 105 110
 Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 28
 <211> 127
 <212> PRT
 <213> Caenorhabditis elegans

<400> 28

Met	Ala	Gln	Ser	Val	Pro	Pro	Gly	Asp	Ile	Gln	Thr	Gln	Pro	Gly	Thr
1				5					10					15	

Lys	Ile	Val	Phe	Asn	Ala	Pro	Tyr	Asp	Asp	Lys	His	Thr	Tyr	Arg	Ile
		20						25					30		

Lys	Val	Ile	Asn	Ser	Ser	Ala	Arg	Arg	Ile	Gly	Tyr	Gly	Ile	Lys	Thr
		35					40					45			

Thr	Asn	Met	Lys	Arg	Leu	Gly	Val	Asp	Pro	Pro	Cys	Gly	Val	Leu	Asp
	50					55					60				

Pro	Lys	Glu	Ala	Val	Leu	Leu	Ala	Val	Ser	Cys	Asp	Ala	Phe	Ala	Phe
65					70					75					80

Gly	Gln	Glu	Asp	Thr	Asn	Asn	Asp	Arg	Ile	Thr	Val	Glu	Trp	Thr	Asn
				85					90					95	

Thr	Pro	Asp	Gly	Ala	Ala	Lys	Gln	Phe	Arg	Arg	Glu	Trp	Phe	Gln	Gly
			100					105					110		

Asp	Gly	Met	Val	Arg	Arg	Lys	Asn	Leu	Pro	Ile	Glu	Tyr	Asn	Pro	
	115						120					125			

<210> 29

<211> 127

<212> PRT

<213> Caenorhabditis elegans

<400> 29

Met	Ala	Gln	Ser	Val	Pro	Pro	Gly	Asp	Ile	Gln	Thr	Gln	Pro	Gly	Thr
1				5					10					15	

Lys	Ile	Val	Phe	Asn	Ala	Pro	Tyr	Asp	Asp	Lys	His	Thr	Tyr	His	Ile
		20						25					30		

Lys	Val	Ile	Asn	Ser	Ser	Ala	Arg	Arg	Ile	Gly	Tyr	Gly	Ile	Lys	Thr
		35					40					45			

Thr	Asn	Met	Lys	Arg	Leu	Gly	Val	Asp	Pro	Pro	Cys	Gly	Val	Leu	Asp
	50					55					60				

Pro	Lys	Glu	Ala	Val	Leu	Leu	Ala	Val	Ser	Cys	Asp	Ala	Phe	Ala	Phe
65					70					75					80

Gly	Gln	Glu	Asp	Thr	Asn	Asn	Asp	Arg	Ile	Thr	Val	Glu	Trp	Thr	Asn
				85					90					95	

Thr	Pro	Asp	Gly	Ala	Ala	Lys	Gln	Phe	Arg	Arg	Glu	Trp	Phe	Gln	Gly
			100					105					110		

Asp	Gly	Met	Ala	Arg	Arg	Lys	Asn	Leu	Pro	Ile	Glu	Tyr	Asn	Pro	
	115						120					125			

<210> 30
 <211> 127
 <212> PRT
 <213> Caenorhabditis elegans

<400> 30
 Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr
 1 5 10 15
 Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
 20 25 30
 Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr
 35 40 45
 Thr Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
 50 55 60
 Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
 65 70 75 80
 Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Ile Glu Trp Thr Asn
 85 90 95
 Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
 100 105 110
 Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Pro
 115 120 125

<210> 31
 <211> 127
 <212> PRT
 <213> Caenorhabditis elegans

<400> 31
 Met Ala Gln Ser Val Pro Pro Gly Asp Ile Asn Thr Gln Pro Ser Gln
 1 5 10 15
 Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
 20 25 30
 Lys Ile Thr Asn Ala Gly Gly Arg Arg Ile Gly Trp Ala Ile Lys Thr
 35 40 45
 Thr Asn Met Arg Arg Leu Ser Val Asp Pro Pro Cys Gly Val Leu Asp
 50 55 60
 Pro Lys Glu Lys Val Leu Met Ala Val Ser Cys Asp Thr Phe Asn Ala
 65 70 75 80
 Ala Thr Glu Asp Leu Asn Asn Asp Arg Ile Thr Ile Glu Trp Thr Asn
 85 90 95
 Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
 100 105 110

Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Leu
 115 120 125

<210> 32
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 32
 Met Ala Gln Ser Val Pro Pro Gly Asp Ile Asn Thr Gln Pro Gly Ser
 1 5 10 15
 Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
 20 25 30
 Lys Ile Thr Asn Ala Gly Gly Arg Arg Ile Gly Trp Ala Ile Lys Thr
 35 40 45
 Thr Asn Met Arg Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
 50 55 60
 Pro Lys Glu Ser Val Leu Met Ala Val Ser Cys Asp Thr Phe Asn Ala
 65 70 75 80
 Ala Thr Glu Asp Leu Asn Asn Asp Arg Ile Thr Ile Glu Trp Thr Asn
 85 90 95
 Thr Pro Asp Gly Ala Ala Lys Gln Phe Arg Arg Glu Trp Phe Gln Gly
 100 105 110
 Asp Gly Met Val Arg Arg Lys Asn Leu Pro Ile Glu Tyr Asn Leu
 115 120 125

<210> 33
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 <212> PRT
 <213> Caenorhabditis elegans

<400> 33
 Met Ala Gln Ser Val Pro Pro Gly Asp Ile Gln Thr Gln Pro Gly Thr
 1 5 10 15
 Lys Ile Val Phe Asn Ala Pro Tyr Asp Asp Lys His Thr Tyr His Ile
 20 25 30
 Lys Val Ile Asn Ser Ser Ala Arg Arg Ile Gly Tyr Gly Ile Lys Thr
 35 40 45
 Thr Asn Met Lys Arg Leu Gly Val Asp Pro Pro Cys Gly Val Leu Asp
 50 55 60
 Pro Lys Glu Ala Val Leu Leu Ala Val Ser Cys Asp Ala Phe Ala Phe
 65 70 75 80
 Gly Gln Glu Asp Thr Asn Asn Asp Arg Ile Thr Val Glu Trp Thr Asn
 85 90 95

Thr	Pro	Asp	Gly	Ala	Ala	Lys	Gln	Phe	Arg	Arg	Glu	Trp	Phe	Gln	Gly
			100					105					110		
Asp	Gly	Met	Val	Arg	Arg	Lys	Asn	Leu	Pro	Ile	Glu	Tyr	Asn	Pro	
		115					120					125			